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FIG. 11 is an exploded perspective view of an alternative form of the first embodiment, illustrating the casing panel being formed with a recess and a pair of slide grooves;

FIG. 12 is a sectional view of the alternative form of the first embodiment, illustrating one of the side panel sections of the flexible display panel being shorter than the other side panel section;

FIG. 13 is a view similar to FIG. 12, but illustrating the casing panels in the unfolded position;

FIG. 14 is a sectional view of another alternative form of the first embodiment, illustrating one of the side panel sections of the flexible display panel being shorter than the other side panel section, and one of the backlight modules being longer than the other backlight module;

FIG. 15 is a view similar to FIG. 14, but illustrating the casing panels in the unfolded position;

FIG. 16 is a perspective view of an electronic device having a display according to the second embodiment of the present invention in a folded state;

FIG. 17 is a perspective view of the second embodiment in an unfolded state;

FIG. 18 is a sectional view of the second embodiment, illustrating first stop faces of pivot arms abutting against each other when two casing panels of an outer casing of the display are in a folded position;

FIG. 19 is a view similar to FIG. 18, but illustrating how the casing panels are moved to an unfolded position; and

FIG. 20 is a view similar to FIG. 18, but illustrating the casing panels in the unfolded position.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

The above-mentioned and other technical contents, features, and effects of this invention will be clearly presented from the following detailed description of two embodiments in coordination with the reference drawings. Through description of the concrete implementation method, the technical means employed and the effectiveness to achieve the predetermined purposes of the present invention will be thoroughly and concretely understood. However, the enclosed drawings are used for reference and description only, and are not used for limiting the present invention.

Before this invention is described in detail, it should be noted that, in the following description, similar elements are designated by the same reference numerals.

Referring to FIGS. 1 and 2, an electronic device 100 according to the first embodiment of the present invention comprises a display 1 and an electronic control unit 2. The electronic device 100 is a portable electronic device, and may be a mobile phone or personal digital assistant (PDA).

With reference to FIGS. 2 to 4, the display 1 includes an outer casing 3, two backlight modules 4, and a flexible display panel 5. The outer casing 3 includes a connecting member 31 and two casing panels 32. The connecting member 31 has two connecting ends 311 respectively disposed at left and right sides thereof. The casing panels 32 are connected respectively to the connecting ends 311, and respectively have bonding faces 321. The backlight modules 4 are fixed respectively to the bonding faces 321 of the casing panels 32. The flexible display panel 5 includes two side panel sections 51 disposed respectively on the backlight modules 4, and a foldable intermediate section 52 connected between the side panel sections 51. The casing panels 32 are pivotal relative to each other to move the backlight modules 4 and the flexible display panel 5 between a folded position shown in FIG. 4 to an unfolded position shown in FIG. 8. In the unfolded position, the back-

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light modules 4 coplanarly cover a backside of the flexible display panel 5. Through this configuration, the backlight modules 4 can provide uniform light to the flexible display panel 5 so that the flexible display panel 5 can display uniform brightness or luminosity.

Below is a detailed description of the structure and use of the electronic device 100.

With reference to FIGS. 2 to 4, the connecting member 31 of the outer casing 3, in this embodiment, includes a base wall 312, and a coupling member 313 extending upwardly from an outer periphery of the base wall 312. The base wall 312 and the coupling member 313 cooperatively define a receiving space 314. The two connecting ends 311 of the connecting member 31 are formed on left and right sides of the coupling member 313, respectively. Each connecting end 311 is formed with two pivot holes 315 spaced apart in a front-rear direction. Each casing panel 32 includes a pivot unit 322 pivoted to the pivot holes 315 in one of the connecting ends 311. Through this configuration, each casing panel 32 can rotate relative to the connecting member 31 through the pivot unit 322 so as to move the backlight modules 4 and the flexible display panel 5 between the folded and unfolded positions.

Each of the casing panels 32 has a recess 320 extending in a left-right direction. The bonding face 321 is defined by a recess bottom of the recess 320.

A light-emitting element (not shown) of each backlight module 4 may be a cold cathode tube, a light-emitting diode, or an organic light-emitting diode. Each backlight module 4 provides light required by the flexible display panel 5. In this embodiment, each backlight module 4 is received in the recess 320 of the respective casing panel 32, and is fixed to the bonding face 321 of the respective casing panel 32. The side panel sections 51 of the flexible display panel 5 are fixed to the respective backlight modules 4. It should be noted that each backlight module 4 may be fixed to the bonding face 321 of the respective casing panel 32 by using an adhesive or a snap- or screw-fastening method. Each side panel section 51 of the flexible display panel 5 may also be fixed to the respective backlight module 4 by using an adhesive or a snap- or screw-fastening method. Through the spaced apart left and right configuration of the backlight modules 4, and through the fixing of the side panel sections 51 of the flexible display panel 5 to the respective backlight modules 4, when the casing panels 32 are pivoted to move the backlight modules 4 and the flexible display panel 5 to the folded position, the backlight modules 4 will not be folded, only the foldable intermediate section 52 of the flexible display panel 5 is folded. As such, the user can easily and quickly rotate the display 1 to fold and unfold states.

The electronic control unit 2 includes a coupling frame 21, a control module 22 disposed on the coupling frame 21, and a soft circuit board 23. The coupling frame 21 has a structure similar to that of the connecting member 31, and is connected to one end of one of the casing panels 32, which is opposite to the connecting member 31. The coupling frame 21 includes a carrier plate 211 carrying the control module 22, and a coupling member 212 having two connecting ends 215 respectively disposed at left and right sides thereof. One of the casing panels 32 includes another pivot unit 323 pivoted to one of the connecting ends 215 of the coupling member 212. The carrier plate 211 has a pivot unit 213 pivoted to the other connecting end 215 of the coupling member 212. The soft circuit board 23 is connected electrically to the control module 22, the backlight modules 4, and the flexible display panel 5. Through this configuration, the control module 22 can provide display signal and power to the backlight modules 4